

5 WHAT IS CLAIMED IS:

1. A vertical bag form-fill-seal packaging machine for forming bags by sealing a continuous tubular packaging material in which a product to be packaged is filled, and for separating and ejecting each of the bags, the machine comprising:

a first transfer unit for transferring the separated bags to another transfer unit or  
10 transfer machine provided in a downstream process,

a first drive unit for driving the first transfer unit, and  
a control unit for controlling the first control unit, said control unit controlling the bag ejection interval or the posture of the bags to be ejected after being transferred by the first transfer unit.

15 2. The machine as defined in claim 1, wherein the control unit provides control so that the bag ejection interval is larger than the bag separation interval.

3. The machine as defined in claim 1, wherein the first transfer unit is a belt.

4. The machine as defined in claim 2, wherein the first transfer unit is a belt.

5. The machine as defined in claim 3, wherein the belt is inclined so that the bags  
20 move diagonally downward.

6. The machine as defined in claim 4, wherein the belt is inclined so that the bags move diagonally downward.

5           7.     The machine as defined in claim 3 , wherein the first transfer unit comprises  
two belts holding each of the bags in a sandwiched manner.

8.     The machine as defined in claim 7, wherein the first transfer unit is such that a  
part of a transfer passage formed between the two belts is inclined so that the direction of the  
bag transfer changes as the bag moves therethrough.

10          9.     The machine as defined in claim 7, further comprising a means for changing  
the distance between the two belts, wherein the control unit controls the means for changing  
the distance between the two belts according to the bags, so as to adjust the distance between  
the two belts.

10          10.    The machine as defined in claim 8, further comprising a means for changing  
15 the distance between the two belts, wherein the control unit controls the means for changing  
the distance between the two belts according to the bags, so as to adjust the distance between  
the two belts.

11.    The machine as defined in claim 7, wherein the sealing is heat-sealing and the  
machine further comprises a cooling unit for spraying a cooling gas on the sealed part of  
20 each of the bags held in a sandwiched manner by the two belts.

12.    The machine as defined in claim 1, further comprising:  
a second transfer unit for receiving, transferring, and ejecting the bags transferred from the

5 first transfer unit, and

a second drive unit for driving the second transfer unit, wherein the control unit further controls the second drive unit.

13. The machine as defined in claim 12, wherein the transfer unit is a belt with a guide bar approximately orthogonal to the direction of transfer.

10 14. The machine as defined in claim 1, further comprising a memory storage unit for storing control settings for each set of products to be packaged, wherein the control unit performs control according to the settings stored in the memory storage unit.

15. The machine as defined in claim 14, wherein at least one of the control setting items to be stored in the memory storage unit is the speed of the drive unit.

15 16. The machine as defined in claim 15, wherein the control unit provides data at least on the bag ejection time interval to the external equipment in the downstream process.

17. The machine as defined in claim 7, further comprising a memory storage unit for storing control settings for each set of products to be packaged, wherein the control unit performs control according to the settings stored in the memory storage unit.

20 18. The machine as defined in claim 17, wherein at least one of the control setting items to be stored in the memory storage unit is the speed of the drive unit.

19. The machine as defined in claim 18, wherein the control unit provides data at least on the bag ejection time interval to the external equipment in the downstream process.

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